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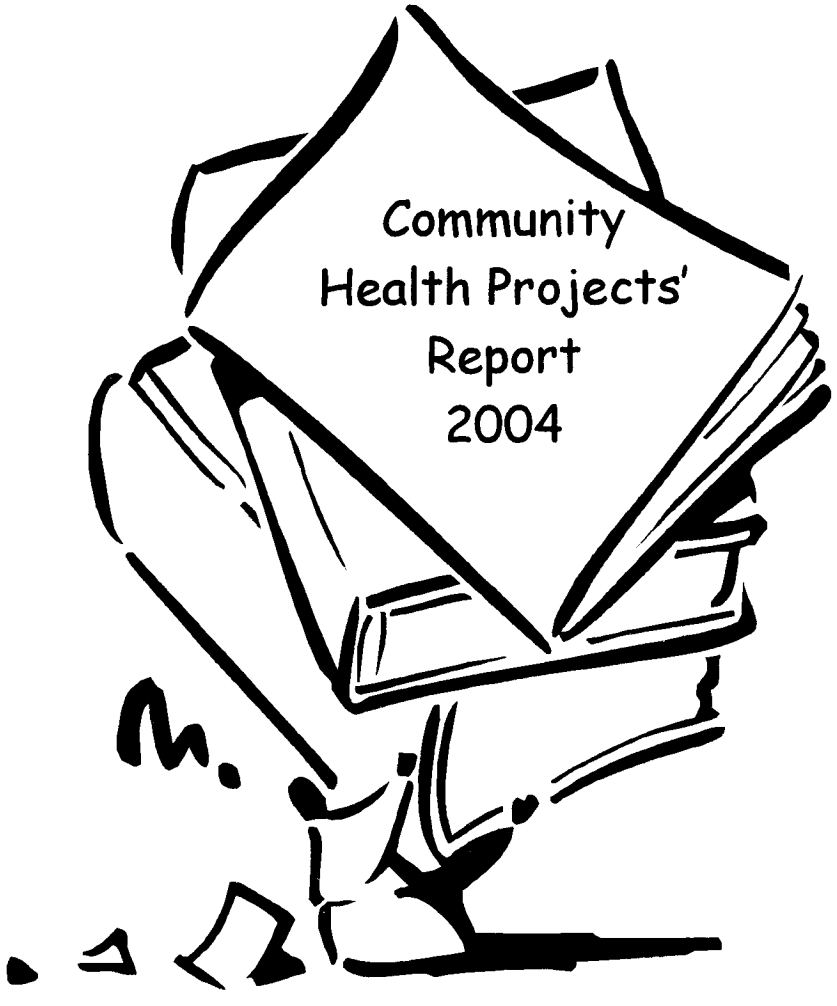

Social Responsibility of Dental and Medical Students in Hong Kong

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1.0 ABSTRACT

It is imperative that doctors and dentists are socially responsible since health problems are polarized among the poor who ironically are underserved. **Aims and objectives:** To assess social responsibility among medical and dental students in Hong Kong, their awareness of factors influencing access to care, their attitudes towards providing care for the underprivileged and to determine factors (socio-demographic and attitudinal) associated with social responsibility. **Methods and materials:** Questionnaires (with over 50 items) incorporating the *Social Responsibility Scale* (Crandall et al, 1993), questions about factors influencing access to healthcare and attitudes towards providing care regardless of ability to pay were distributed to all medical and dental undergraduates of the University of Hong Kong to self-complete. **Results:** Six hundred and forty-five questionnaires were distributed to medical students, 74% (479) completed the questionnaire in full. Two hundred and fifty questionnaires were distributed to dental students, and 82% (206) completed the questionnaire in full. The mean *Social Responsibility Scale* score for medical students was 1480.17 (SD 203) and for dental students 1475.36 (SD 175) [both out of a possible range of 0-2300]. Many medical and dental students agreed that access to medical and dental care in Hong Kong was influenced by income level, education level, age, residency and insurance status but not gender. Many medical students agreed that all types of medical services should be provided regardless of their ability to pay whereas dental students believed that only preventive and basic treatment should be provided regardless of their ability to pay. Social responsibility of students was influenced by student socio-demographic factors: gender, religious belief, previous tertiary study ($p<0.05$). In addition social responsibility scores was associated with awareness of factors influencing access ($p<0.05$) and experience of working with the underprivileged ($p<0.05$). Attitudes towards providing care regardless of ability to pay is associated with social responsibility ($p<0.05$).

Conclusion: Medical and dental students are aware that socio-demographic factors influence access to care except gender. Medical and dental students differ in their perceptions of access to care regardless of their ability to pay. Social responsibility is associated with students' socio-demographic factors, attitudes towards providing care regardless of their ability to pay, and awareness of factors influencing access to care. These findings have implications in training more socially responsible medical and dental students.

2.0 INTRODUCTION

Social responsibility is a state of being fit to be trusted, worthy of confidence and dependable for the improvement of the health of society and its members (Faulkner, McCurdy, 2000). Promoting social responsibility for health is one of the key priorities for health promotion in the 21st century, according to the World Health Organization's Jakarta declaration on 'Leading Oral Health Promotion into the 21st Century' (WHO, 1997). Decision-makers must be firmly committed to social responsibility and health should be promoted by pursuing policies and practices that:

- avoid harming the health of individuals
- protect the environment and ensure sustainable use of resources
- restrict production of and trade in inherently harmful goods and substances such as tobacco and armaments, as well as discourage unhealthy marketing practices
- safeguard both the citizens in the marketplace and the individual in the workplace
- include equity-focused health impact assessments as an integral part of policy development

It is imperative for both medical doctors and dentists to be socially responsible. This is because both professions are given the freedom to self-govern and yet, both professions deal greatly with care (The Dental Council of Hong Kong, 2003). It is now widely accepted that health problems are polarized among certain groups in the population. Most countries have reported poor oral health among older people, women and those from lower socioeconomic groups (including those with lower educational attainment) (Lerer et al, 1998; Mustard, Frochlich, 1995; Locker, 2000). In addition, many countries have reported an 'inverse care law'; in that the groups with the highest levels of disease have poorer access to health care than those with lower levels of disease (Watt, 2002). Thus, there is an inequity in access to health care.

We believe that there should be a commitment on the part of the medical and dental profession towards the health of the society as a whole. However, little has been written on medical and dental students' attitudes towards providing care for the needy and underserved. Medical students are often viewed to be more interested in the job security and quality of life associated with specialization than they are in the long hours and personal commitment required for caring for the public (Eckenfels, 1997). Likewise, a key reason dental students choose to study dentistry is due to factors such as economic and social security rather than commitment to care (Vigild et al, 2001; Widstrom et al, 1990). In 1993, a research was conducted on medical students' attitudes towards providing care for the underserved. It showed that medical students in the higher years had worse attitudes towards providing care for the needy as compared with first years (Crandall et al, 1993). However, a study such as this has never been carried out on any dental students. It is necessary to investigate the attitudes of medical and dental students in order to find possible educational interventions to better train them to become more socially responsible.

Our study was conducted in order to provide further information on the views of dental and medical students towards social responsibility. Furthermore, from previous literature, it has been shown that socio-demographics such as age, gender, income levels, education levels, residency status and insurance status play a large role in determining the access to medical and dental care (Hayward et al, 1989; Lerer et al, 1998; Ring, Jones, 2004). Therefore, we have included this in our study, as we believe that awareness of this relationship will influence whether one is a socially responsible person or not.

3.0 AIMS AND OBJECTIVES

To investigate the attitudes of medical and dental students towards providing care for the underserved and their views towards social responsibility.

- To assess medical and dental students' understanding of factors which influence access to healthcare.
- To access medical and dental students' social responsibility.
- To explore factors medical and dental students' attitudes towards providing care for all irrespective of their ability to pay.
- To determine factors associated with social responsibility (Socio-demographic and attitudinal).

4.0 METHODS AND MATERIALS

4.1 Sample

The sample frame was all medical and dental students of the University of Hong Kong. It was decided not to employ random sampling technique but rather to include all subjects in the sampling frame (i.e. all students). The sample size was therefore equivalent to the sum of undergraduates registered in the dental and medical faculties.

4.1 Data Collection

4.1.1 Data Collection Instruments

The data collection instrument was a self-completed questionnaire. It was composed of four components. The first component was designed to determine students' awareness about socio-demographic factors associated with access to health care. Following a review of the literature, six key factors were identified as influencing access to care: age, income, gender, residency status, education level and insurance status (Hayward et al, 1989; Lerer, 1998; Ring, Jones, 2004; Locker, 2000). Students were asked to rate their agreement of the influence of such factor on a five-pointed Likert scale. Responses ranged from strongly disagree (score 1) to strongly agree (score 5).

The second component was social responsibility scale. It was based on social responsibility scale developed by Dr. Sonia J. S. Crandall who was contacted by the group to assist in this project (Reference: "Medical Students' Attitudes Toward providing Care for the Underserved" JAMA, 1993; 269:2519-2523). It consisted of twenty-five questions. (Table 1)

Twenty-three items (items 1-23) were closed questions which were coded on a five-pointed Likert scale. Responses ranged from strongly disagree (score 1) to strongly

agree (score 5). The other two items (24 and 25) were open questions. The social responsibility scale was comprised of three sub-scales (domains) which included societal expectations scale (items 3, 6, 8, 12, 14, 17, 19, 21), professional responsibility scale (items 1, 2, 4, 7, 10, 11, 13, 15, 18, 20, 22), and general attitudes scale (items 1, 2, 3, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22).

A modified version of this questionnaire was adopted for dental students by replacing the term 'medical care' with 'dental care'.

Table 1- Items under the social responsibility scale

Items	Description
1)	Physicians should be responsible for providing medical care to the needy
2)	Physicians should volunteer their time working in a free clinic
3)	It is not the responsibility of the Hong Kong government to fund programs that provide health care to the needy.
4)	I feel personally responsible for providing medical care to the needy
5)	Individual doctors should not be willing to provide care for their patients who cannot pay.
6)	Communities should be responsible for providing facilities for the care of the medically needy.
7)	Medical students should be involved in providing medical care or the needy.
8)	Medical care should be provided without charge for those who cannot pay.
9)	It is the responsibility of charity organization to provide some funding for health care services
10)	To care for needy patients, each physician should allow for 15% of the care he/she provides to be true charity.
11)	I would be interested in volunteering for programs which provide medical care for the needy during my medical training.
12)	Not everyone should have access to medical care.
13)	All medical students should become involved in community health efforts.
14)	Hong Kong government should be responsible for funding programs to meet health care needs of its residents.
15)	I feel I am personally unable to make an impact on the problem of meeting the medical needs of the underprivileged.
16)	Charity organization should provide facilities for medical care of the needy.
17)	Access to medical care is a privilege.
18)	I personally want to be involved in providing care for the medically needy during my medical career.
19)	Society is responsible for providing for the health care of its members.
20)	Medical students should not be concerned about the problems of the medically needy.
21)	Unlimited medical care.
22)	Community activities.
23)	Access to medical care is a right.
24)	I have been involved in project providing care to the medically needy. If yes, please describe.
25)	Are there any people or groups who you feel should not receive free medical care? If yes, please specify.

The third component was designed to assess students' perceptions of whether people should have access to different types of care regardless of their ability to pay. These ranged from check-up, prevention, basic services to more complex types of care as illustrated in the table below. (Tables 2 and 3)

Table 2- Continuum of medical care services

Items	Types of medical care
1)	Routine health maintenance (e. g. check-up)
2)	Health education
3)	Preventive medical services (e.g. vaccines)
4)	Emergency medical care (e.g. appendicitis)
5)	Treatment for acute disease (e.g. flu)
6)	Treatment for chronic disease (e.g. diabetes)
7)	Treatment for cancer
8)	Pre-natal care (including delivery)
9)	Organ transplants
10)	Surgery (e.g. open-heart)

Table 3 - Continuum of dental care services

Items	Types of dental services
1)	Screening, diagnosis and treatment planning (Including oral cancers and any oral diseases)
2)	Oral health education
3)	Preventive dental services (e.g. OHI, fissure sealant)
4)	Emergency dental treatment (e.g. pain relieving)
5)	Non-surgical periodontal treatments (e.g. scaling, root planing)
6)	Simple extractions
7)	Simple restorations
8)	Removal of 3rd molars
9)	Implants
10)	Prostheses (e.g. dentures, bridges)
11)	Orthodontics
12)	Advanced periodontal treatment
13)	Endodontics

The fourth component was designed to assess students' socio-demographic factors. This included questions related to age, gender, financial assistance as illustrated in the table (Table 4).

Table 4 - Students' socio-demographic factors

Items	Students' socio-demographic factors
1)	Age
2)	Year of study
3)	Gender
4)	Previous tertiary study
5)	Religious belief
6)	Born in Hong Kong
7)	Overseas education
8)	Receiving/received Local Student Finance Scheme (LSFS)

4.1.2 Data Collection Process

A pilot testing of the questionnaire was carried out amongst first year dental students and fourth year medical students from the University of Hong Kong. After pilot testing a slight modification was done to the questionnaire.

Questionnaires for medical students of all 5 years were distributed at the beginning of their whole class lectures and collected at the end of them. Likewise, for dental students (Year 1 to Year 5), questionnaires were sent out before their whole class session started and collected at the end. Students self-completed their questionnaires and participation was voluntary.

4.3 Data Analysis

The data were coded and analysed using the statistical package SPSS. The data were cleaned by checking for missing data and student questionnaires were excluded for analysis where missing data occurred (i.e. year of study and gender).

Overall response rates were calculated for medical and dental students as well as response rate for each year. The codes for items 3, 5, 12, 15, 17, 20 were reversed in line with the rubric instructions for scoring the social responsibility scales and domains. In addition, responses to each item were converted from the scale of 1-5 to the scale of 0-100, i.e. where students strongly disagreed, they scored 0 and where students

strongly agreed, they scored 100. Overall social responsibility scores were computed by stimulating responses to all items. Domain scores for social expectation scale, professional responsibility scale and general attitudes scale were computed by summating responses to items within each domain respectively.

Frequency tables were produced of responses to items within each component of questionnaire. In addition, mean and standard deviation were computed for overall social responsibility score, social expectation score, professional responsibility score and general attitudes score.

Following on, association between social responsibility scores (overall and domain scores) and student socio-demographic factors as well as awareness about access to health care and perceptions of types of services that should be provided regardless the ability to pay were explored (i.e. preventive care to complex surgical care). In addition, differences in mean social responsibility scores between medical and dental students were assessed.

Oneway analysis of variance (ANOVA) and student t-tests were performed to determine differences in mean scores as appropriate (t-test to distinguish between two groups while ANOVA to distinguish among more than 2 groups).

5.0 RESULTS

5.A.1 Response Rate and Profile of the Medical Students Study Group

A total of 645 questionnaires were distributed to the medical students of each year during their whole class lectures. Five hundred and twenty five questionnaires were returned. Out of these, 46 questionnaires were eliminated. It was because these questionnaires were either incompletely filled or the details of gender and year of study were missing. Thus, only 479 questionnaires were used for analysis in this study. The overall response rate was 74% (479/645 x 100%). The response rate of each medical year is shown in Table 5.

Table 5- Responses of the questionnaires from the medical students of each year

Year of study	Number of questionnaires distributed	Number of questionnaires returned	Response rate (%)
1	136	93	68.4
2	129	122	94.6
3	102	85	83.3
4	125	111	88.9
5	153	68	44.4

Among the 479 medical students in the study group, 37% of them were between 17- to 20-year-old, 60% were between 21- to 24-year-old and 3% were over 25-year-old. The study group was predominately male (56%). Most of them did not have any previous tertiary education (93%) and had not been educated overseas (79%). Almost 90% of the medical students in the study were born in Hong Kong. More than half the students claimed not to have any religious belief (61%). About three-quarters (73%) of the students claimed not to receive financial support from the government for their study. The profile of the medical students study group is presented in Table 6.

Table 6- Profile of the medical students in the study group

Item		Percentage % (Number)
Age in years	17 - 20	36.5 (175)
	21 - 24	60.4 (289)
	25 or above	3.1 (15)
Gender	Male	56.4 (270)
	Female	43.6 (209)
With previous tertiary study	Yes	7.3 (35)
	No	92.7 (444)
With religious belief	Yes	39.2 (188)
	No	60.8 (291)
Born in Hong Kong	Yes	88.1 (422)
	No	11.9 (57)
Educated overseas	Yes	21.1 (101)
	No	78.9 (378)
Receiving LSFS	Yes	26.9 (129)
	No	73.1 (350)

5.A.2 Descriptive Analysis (Medical)

5.A.2.1 Awareness of Inequalities in Access to Medical Care

Most medical students agreed that access to medical care is influenced by income level (73.9%), education level (62.4%), age (61.2%), residency status (58.9%) and insurance status (56.4%). However, 58.1% of medical students disagreed that access to medical care is influenced by gender.

Table 7 - Awareness of inequalities in access to medical care

Items	Strongly disagree No. (%)	Disagree No. (%)	Undecided No. (%)	Agree No. (%)	Strongly agree No. (%)
Age	21 (4.4%)	112 (23.4%)	53 (11.1%)	252 (52.6%)	41 (8.6%)
Income level	14 (2.9%)	75 (15.7%)	36 (7.5%)	254 (53.0%)	100 (20.9%)
Education level	16 (3.3%)	101 (21.1%)	63 (13.2%)	243 (50.7%)	56 (11.7%)
Gender	87 (18.2%)	191 (39.9%)	93 (19.4%)	95 (19.8%)	13 (2.7%)
Insurance status (Insured vs. Uninsured)	19 (4%)	121 (25.3%)	69 (14.4%	207 (43.2%)	63 (13.2%)
Residency status (Permanent residence?)	12 (2.5%)	96 (20.0%)	89 (18.6%)	234 (48.9%)	48 (10.0%)

5.A.2.2 Access to Different Types of Medical Services

Most medical students agreed that everyone should have access to emergency medical care (91.6%), health education (89.6%), preventive medical services (79.7%), pre-natal care (77.7%), treatment for acute illnesses (67.6%), treatment for cancer (65.3%) and treatment for chronic illnesses (60.3%) regardless of their ability to pay. However, less medical students (53.7%) agreed that everyone should have access to surgery regardless of their ability to pay. Similarly, only 47.2% of medical students agreed that everyone should have access to organ transplants regardless of their ability to pay.

Table 8 -Access to different types of medical services

Items	Strongly disagree No. (%)	Disagree No. (%)	Undecided No. (%)	Agree No. (%)	Strongly agree No. (%)
Routine health maintenance (e.g. check-up)	9 (1.9%)	112 (23.4%)	128 (26.7%)	218 (45.5%)	12 (2.5%)
Health education	1 (0.2%)	13 (2.7%)	36 (7.5%)	339 (70.8%)	90 (18.8%)
Preventive medical services (e.g. vaccines)	2 (0.4%)	35 (7.3%)	60 (12.5%)	308 (64.3%)	74 (15.4%)
Emergency medical care (e.g. appendicitis)	1 (0.2%)	18 (3.8%)	21 (4.4%)	274 (57.2%)	165 (34.4%)
Treatment for acute disease (e.g. flu)	7 (1.5%)	62 (12.9%)	86 (18.0%)	274 (57.2%)	50 (10.4%)
Treatment for chronic disease (e.g. diabetes)	5 (1.0%)	68 (14.2)	117 (24.4%)	251 (52.4%)	38 (7.9%)
Treatment for cancer	1 (0.2%)	59 (12.3%)	106 (22.1%)	265 (55.3%)	48 (10.0%)
Pre-natal care (Including delivery)	2 (0.4%)	35 (7.3%)	70 (14.6%)	317 (66.2%)	55 (11.5%)
Organ transplants	15 (3.1%)	87 (18.2%)	151 (31.5%)	192 (40.1%)	34 (7.1%)
Surgery (e.g. open-heart)	12 (2.5%)	75 (15.7%)	135 (28.2%)	224 (46.8%)	33 (6.9%)

5.A.2.3 Overall Social Responsibility Scores

The medical students' overall Social Responsibility Scale scores ranged from 575 to 2150. Their mean score was 1480.17 (SD 203.33) out of a possible score range of 0 to 2300. The medical students' attitude scores ranged from 325 to 1750. Their mean attitude score was 1204.91 (SD 176.94) out of a possible score range of 0 to 1900. The medical students' societal scores ranged from 100 to 800. Their mean societal score was 513.78 (SD 91.45) out of a possible score range of 0 to 800. The medical students' professional responsibility scores ranged from 225 to 1050. Their mean professional responsibility score was 691.13 (SD 118.89) out of a possible score range of 0 to 1100.

Table 9 illustrates the frequency of the responses of the individual items of the Social Responsibility Scale. Most medical students (87.6%) agreed that physicians should be responsible for providing medical care to the needy and that access to medical care is a right (81%). Likewise, most medical students (82.7%) said that they would be interested in volunteering for programs which provide medical care for the needy during their medical training.

However, most medical students disagreed that it is not the responsibility of the Hong Kong government to fund programs that provide health care (70.8%). Likewise, medical students (74.9%) disagreed that not everyone should have access to medical care and that medical students should not be concerned about the problems of the needy (70.8%).

Table 9 -Frequency of Responses of the Medical Students to the Social Responsibility Scale

Items		Strongly disagree No. (%)	Disagree No. (%)	Undecided No. (%)	Agree No. (%)	Strongly agree No. (%)
1)	**Physicians should be responsible for providing medical care to the needy**	2 (0.4%)	21 (4.4%)	36 (7.5%)	325(67.8%)	95 (19.8%)
2)	**Physicians should volunteer their time working in a free clinic**	21 (4.4%)	105(21.9%)	209 (43.6%)	130(27.1%)	14 (2.9%)
3)	**It is not the responsibility of the Hong Kong government to fund programs that provide health care to the needy.**	91(19.0%)	248(51.8%)	58 (12.1%)	69 (14.4%)	13 (2.7%)
4)	**I feel personally responsible for providing medical care to the needy**	3 (0.6 %)	26 (5.4%)	75 (15.7%)	305(63.7%)	70 (14.6%)
5)	**Individual doctors should not be willing to provide care for their patients who cannot pay.**	74 (15.4%)	219(45.7%)	118 (24.6%)	56 (11.7%)	12 (2.5%)
6)	**Communities should be responsible for providing facilities for the care of the medically needy.**	3 (0.6%)	33(6.9%)	67 (14.0%)	332(39.3%)	44 (9.2%)
7)	**Medical students should be involved in providing medical care or the needy.**	11 (2.3%)	64 (13.4%)	100 (20.9%)	268(55.9%)	36 (7.5%)
8)	**Medical care should be provided without charge for those who cannot pay.**	12 (2.5%)	73 (15.2%)	124 (25.9%)	231(48.2%)	39 (8.1%)
9)	**It is the responsibility of charity organization to provide some funding for health care services**	0.2 (1%)	48 (10.0%)	79 (16.5%)	309(64.5%)	42 (8.8%)
10)	**To care for needy patients, each physicians should allow for 15% of the care he/she provides to be true charity.**	15 (3.1%)	107(22.3%)	242 (50.5%)	111(23.2%)	4 (0.8%)

11)	I would be interested in volunteering for programs which provide medical care for the needy during my medical training.	5 (1.0%)	16 (3.3%)	62 (12.9%)	354(73.9%)	42 (8.8%)
12)	Not everyone should have access to medical care.	149 (31.1%)	210(43.8%)	59 (12.3%)	52 (10.9%)	9 (1.9%)
13)	All medical students should become involved in community health efforts.	10 (2.1%)	52 (10.9%)	109(22.8%)	281 (58.7%)	27 (5.6%)
14)	Hong Kong government should be responsible for funding programs to meet health care needs of its residents.	4 (0.8%)	33 (6.9%)	76 (15.9%)	309 (64.5%)	57 (11.9%)
15)	I feel I am personally unable to make an impact on the problem of meeting the medical needs of the underprivileged.	10 (2.1%)	110 (23.0%)	149 (31.1%)	180 (37.6%)	30 (6.3%)
16)	Charity organization should provide facilities for medical care of the needy.	2 (0.4%)	27 (5.6%)	79 (16.5%)	338 (70.6%)	33 (6.9%)
17)	Access to medical care is a privilege.	48 (10.0%)	172 (35.9%)	119 (24.8%)	130 (27.1%)	10 (2.1%)
18)	I personally want to be involved in providing care for the medically needy during my medical career.	1 (0.2%)	12 (2.5%)	52 (10.9%)	352 (73.5%)	62 (12.9%)
19)	Society is responsible for providing for the health care of its members.	3 (0.6%)	25 (5.2%)	72 (15.0%)	330 (68.9%)	49 (10.2%)
20)	Medical students should not be concerned about the problems of the medically needy.	78 (16.3)	261 (54.5%)	81 (16.9%)	53 (11.1%)	6 (1.3%)
21)	Unlimited medical care.	50 (10.4%)	154 (32.2%)	127 (26.5%)	125 (26.1%)	23 (4.8%)
22)	Community activities.	8 (1.7%)	72 (15.0%)	157 (32.8%)	221 (46.1%)	21 (4.4%)
23)	Access to medical care is a right.	3 (0.6%)	22 (4.6%)	66 (13.8%)	309 (64.5%)	79 (16.5%)

5.A.3 Analytical Statistics (Medical)

5.A.3.1 Student Factors

Among these student factors, faith (religion) emerged as the most important student factors to be associated with social responsibility scores. There was an association between faith and overall social responsibility score ($p=0.01$), professional responsibility score ($p=0.01$), general attitude score ($p<0.001$), and borderline significance with social expectation score ($p=0.05$). As important as faith, the year of study was also associated with social responsibility score. There was an association between year of study and overall social responsibility score ($p<0.001$), professional responsibility score ($p=0.02$), general attitude score ($p=0.01$). There was also borderline significance between year of study and social expectation score ($p=0.06$). There was also association between experience in projects for needy and social responsibility score ($p=0.04$), professional responsibility score ($p=0.02$) and general attitude score ($p=0.04$). In addition, gender was associated with professional responsibility score ($p=0.03$) and previous education attainment was associated with professional responsibility score ($p=0.01$). Table 10 illustrates mean and standard deviation of the scores in relation to student factors.

Table 10- Mean and Standard Deviation (SD) with respect to student factors.

		Overall Social Responsibility Mean (SD)	Social Expectation Mean (SD)	Professional Responsibility Mean (SD)	General Attitude Mean (SD)
Gender	Male	1469 (219)	512 (96)	681 (133)^	1193 (193)^
	Female	1495 (180)	516 (85)	704 (100)^	1220 (153)^
Religion	Yes	1510 (209)^	524 (92)^	710 (124)^	1234 (179)*
	No	1461 (198)^	507 (90)^	679 (116)^	1186 (174)*
Born in Hong Kong	Yes	1478 (203)	512 (91)	690 (122)	1202 (177)
	No	1497 (208)	530 (95)	700 (107)	1230 (178)
Overseas	Yes	1494 (239)	514 (102)	707 (135)	1222 (205)
Education	No	1477 (193)	514 (88)	687 (115)	1200 (169)
LSFS	Yes	1506 (199)	523 (90)	701 (114)	1224 (171)
	No	1471 (204)	511 (92)	687 (122)	1198 (179)
Previous Tertiary	Yes	1537 (277)	516 (118)	739 (157)^	1256 (237)
Studies	No	1476 (196)	514 (89)	687 (116)^	1201 (171)
Year of Study	Year I	1516 (190)*	522 (73)	719 (115)^	1242 (156)^
	Year II	1513 (132)*	528 (61)	699 (73)^	1227 (106)^
	Year III	1488 (160)*	515 (81)	691 (82)^	1206 (140)^
	Year IV	1444 (183)*	498 (87)	678 (109)^	1176 (153)^
	Year V	1422 (208)*	499 (93)	661 (120)^	1160 (186)^
Experience of	Yes	1544 (200)*	532 (92)*	731 (108)*	1263 (168)*
Project for needy	No	1452 (199)*	505 (90)*	673 (120)*	1179 (175)*

^ $p < 0.05$, * $p < 0.01$

5.A.3.2 Attitude Towards Service

There were strong associations between social responsibility score (overall) and domain scores) and medical students' perception on what type of services should be available regardless of ability to pay. In general, social responsibility scores (overall and domain scores) increased as agreement with access to types of services regardless of ability to pay increased. For example, students who "strongly agree" that check-up should be provided regardless of ability to pay has the highest social responsibility scores (overall and domain scores) followed by those who "agree", "undecided", "disagree", "strongly disagree" respectively. Table 11 illustrates this.

Table 11- Mean scores and standard deviation with respect to willingness to provide services regardless of ability to pay.

		Strongly Disagree Mean (SD)	Disagree Mean (SD)	Undecided Mean (SD)	Agree Mean (SD)	Strongly Agree Mean (SD)
Check-up	**T^**	1308 (295)	1427 (218)	1464 (171)	1511 (189)	1721 (268)
	S^	444 (147)	498 (84)	510 (88)	521 (90)	621 (77)
	PR^	600 (149)	659 (140)	681 (95)	714 (107)	756 (211)
	A^	1044 (267)	1157 (189)	1190 (148)	1235 (165)	1377 (241)
Health	**T^**	950	1338 (331)	1408 (191)	1470 (178)	1573 (235)
Education	**S^**	450	448 (159)	499 (101)	509 (80)	548 (107)
	PR^	350	623 (172)	663 (110)	686 (114)	735 (123)
	A^	800	1071 (313)	1162 (164)	1195 (158)	1283 (195)
Preventive	**T^**	1450 (35)	1339 (262)	1434 (147)	1483 (184)	1574 (243)
	S^	488 (18)	449 (109)	497 (77)	516 (84)	549 (105)
	PR*	688 (88)	646 (153)	673 (83)	691 (114)	730 (141)
	A^	1175 (71)	1095 (230)	1169 (120)	1207 (163)	1279 (209)
Emergency	**T^**	1050	1413 (338)	1339 (110)	1457 (177)	1546 (205)
	S^	375	485 (149)	462 (91)	502 (79)	543 (94)
	PR*	575	672 (175)	645 (114)	681 (112)	717 (123)
	A^	950	1157 (291)	1107 (170)	1183 (158)	1260 (178)
Acute illness	**T^**	1429 (243)	1380 (238)	1450 (196)	1486 (181)	1631 (198)
	S^	493 (104)	475 (106)	499 (83)	515 (83)	584 (95)
	PR^	696 (95)	633 (148)	689 (117)	693 (108)	755 (120)
	A^	1189 (167)	1108 (219)	1188 (164)	1208 (157)	1339 (166)
Chronic	**T^**	1505 (196)	1386 (229)	1450 (188)	1496 (185)	1638 (215)
illness	**S^**	535 (111)	476 (110)	496 (73)	519 (84)	600 (96)
	PR^	685 (72)	650 (131)	682 (124)	700 (112)	739 (126)
	A^	1220 (155)	1126 (201)	1178 (160)	1218 (165)	1339 (178)
Cancer	**T^**	1600	1372 (218)	1458 (155)	1485 (198)	1630 (222)
	S^	650	478 (102)	496 (75)	515 (87)	591 (95)
	PR^	650	636 (124)	692 (94)	694 (123)	739 (130)
	A^	1300	1114 (187)	1188 (133)	1209 (175)	1330 (191)
Prenatal	**T^**	1513 (124)	1375 (235)	1461 (188)	1476 (197)	1596 (195)
	S^	588 (88)	476 (105)	504 (78)	510 (87)	573 (102)
	PR*	625 (35)	644 (131)	689 (113)	691 (119)	725 (121)
	A^	1213 (124)	1119 (211)	1193 (156)	1201 (172)	1298 (173)
Organ	**T^**	1233 (231)	1437 (210)	1471 (176)	1497 (187)	1648 (236)
Transplants	**S^**	433 (129)	495 (91)	508 (76)	518 (87)	599 (103)
	PR^	550 (131)	669 (133)	690 (110)	703 (106)	748 (143)
	A^	983 (207)	1164 (186)	1198 (151)	1221 (161)	1346 (206)
Surgery	**T^**	1348 (187)	1427 (236)	1459 (177)	1493 (191)	1652 (208)
	S^	496 (111)	491 (108)	498 (78)	518 (83)	604 (95)
	PR^	594 (79)	666 (139)	689 (119)	699 (109)	741 (130)
	A^	1090 (158)	1157 (207)	1187 (156)	1217 (165)	1345 (187)

^ $p<0.01$; * $p<0.05$
T=Overall social responsibility score
S=Social Expectation score
PR=Professional Responsibility score
A=General Attitude score

5.A.3.3 Attitudes Towards Factors Influencing Access to Care

In many situations, awareness of factors influencing access to care was associated with social responsibility score. Those who were aware that age influenced access to care have higher social responsibility score (p=0.05). Students who were aware that education level influenced access to care have higher social responsibility score (p=0.01), professional responsibility score (p=0.03) and general attitude score (p=0.04), aware of influence of gender was associated with higher social expectation score (p<0.001). Table 12 illustrates this.

Table 12- Mean scores and standard deviation with respect to views held on access

Medical		Strongly Disagree Mean (SD)	Disagree Mean (SD)	Undecided Mean (SD)	Agree Mean (SD)	Strongly Agree Mean (SD)
Age	**T^{+}**	1473 (236)	1498 (213)	1477 (206)	1461 (191)	1559 (218)
	S	513 (126)	524 (83)	521 (84)	504 (91)	537 (100)
	PR	674 (127)	696 (131)	689 (114)	684 (115)	733 (117)
	A	1187 (227)	1221 (181)	1210 (174)	1188 (167)	1270 (190)
Income	**T**	1488 (316)	1483 (226)	1458 (165)	1473 (186)	1503 (222)
	S	530 (121)	511 (96)	507 (73)	509 (87)	527 (100)
	PR	680 (192)	699 (112)	683 (95)	689 (114)	694 (136)
	A	1211 (282)	1211 (184)	1190 (139)	1199 (167)	1221 (193)
Education	**T^{+}**	1495 (345)	1465 (202)	1479 (176)	1466 (193)	1568 (212)
	S	516 (162)	509 (81)	527 (76)	508 (91)	533 (99)
	PR^{+}	689 (190)	684 (117)	680 (99)	686 (120)	740 (114)
	A^{+}	1205 (330)	1193 (172)	1208 (150)	1193 (170)	1273 (176)
Gender	**T**	1503 (243)	1484 (185)	1465 (197)	1452 (194)	1588 (252)
	S^	530 (108)	517 (81)	504 (90)	492 (91)	579 (81)
	PR	685 (149)	694 (107)	688 (120)	692 (109)	704 (165)
	A	1215 (227)	1211 (157)	1192 (172)	1185 (158)	1283 (224)
Insurance	**T**	1534 (301)	1465 (199)	1489 (215)	1484 (178)	1471 (242)
	S	517 (119)	511 (86)	515 (104)	516 (82)	507 (209)
	PR	725 (156)	677 (119)	700 (115)	694 (111)	690 (141)
	A	1242 (256)	1189 (172)	1215 (193)	1210 (157)	1197 (203)
Residency	**T**	1540 (296)	1475 (218)	1473 (189)	1487 (197)	1457 (206)
	S	544 (100)	514 (100)	503 (82)	515 (89)	517 (99)
	PR	694 (175)	686 (122)	694 (110)	695 (118)	676 (129)
	A	1238 (249)	1200 (187)	1197 (160)	1211 (176)	1192 (176)

^p<0.01; $^{+}$p<0.05

5.B.1 Response Rate and Profile of the Dental Students Study Group

A total number of 250 questionnaires were distributed to the dental students of each year during their whole class functions. Two hundred and sixteen questionnaires were returned. Among these, 10 of them were eliminated. These eliminated questionnaires were either incompletely filled or the information of gender and year of study were missing. Therefore, only 206 questionnaires were used for analysis in this study. The overall response rate was 82% (206/250 x 100%). The response rate of each dental year is shown below.

Table 13- Responses of the questionnaires from the dental students of each year

Year of study	Number of questionnaires distributed	Number of questionnaires returned	Response rate (%)
1	51	33	64.7
2	51	45	88.2
3	51	43	84.3
4	51	49	96.1
5	46	36	78.3

Among the 206 dental students in the study, 23% of them were between 18- to 20-year-old, 66% were between 21- to 24-year-old and 5% were over 25-year-old. The participants were predominately male (54%). Most of them did not have any previous tertiary education (89%) and had not been educated overseas (79%). Over four-fifth (86%) of the dental students were born in Hong Kong. More than half of the students claimed not to have any religious belief (60%). Over 70% of the students claimed not to receive financial support from the government for their study. The profile of the dental students in the study group is presented in Table 14.

Table 14- Profile of the dental students in the study group

Item		Percentage % (Number)
Age in years	18 - 20	26.8 (55)
	21 - 24	66.0 (136)
	25 or above	4.9 (10)
	Missing	2.4 (5)
Gender	Male	54.4 (112)
	Female	45.6 (94)
With previous tertiary study	Yes	11.2 (23)
	No	88.8 (183)
With religious belief	Yes	39.8 (82)
	No	60.2 (124)
Born in Hong Kong	Yes	86.4 (178)
	No	13.6 (28)
Educated overseas	Yes	20.9 (43)
	No	79.1 (163)
Receiving LSFS	Yes	29.6 (61)
	No	70.4 (145)

5.B.2 Descriptive Statistics (Dental)

5.B.2.1 Awareness of Inequalities in Access to Dental Care

Most dental students agreed that access to dental care in Hong Kong is influenced by income level (88.9%), education level (71.4%), insurance status (65.1%) and age (63.1%). However, 50.5% of dental students disagreed that access to dental care in Hong Kong is influenced by gender.

Table 15- Awareness of inequalities in Access to Dental Care

Items	Strongly Disagree No. (%)	Disagree No. (%)	Undecided No. (%)	Agree No. (%)	Strongly Agree No. (%)
Age	10 (4.9%)	31 (15.0%)	35 (17.0%)	118 (57.3%)	12 (5.8%)
Income level	1 (0.5%)	12 (5.8%)	10 (4.9%)	113 (54.9%)	70 (34.0%)
Education level	4 (1.9%)	22 (10.7%)	33 (16.0%)	104 (50.5%)	43 (20.9%)
Gender	32 (15.5%)	72 (35.0%)	60 (29.1%)	42 (20.4%)	0 (0%)
Insurance status (Insured vs. Uninsured)	4 (1.9%)	22 (10.7%)	46 (22.3%)	106 (51.5%)	28 (13.6%)
Residency Status (i.e. permanent resident)	11 (5.3%)	57 (27.7%)	78 (37.9%)	55 (26.7%)	5 (2.4%)

5.B.2.2 Access to Different Types of Dental Services

Most dental students agreed that everyone should have access to oral health education (91.8%), emergency dental treatments (82%), screening, diagnosis and treatment planning (78.6%) and preventive dental services (61.2%) regardless of their ability to pay. However, 68.9% of dental students disagreed that everyone should have access to implants regardless of their ability to pay. Similarly, 68.4% disagreed that everyone should have access to orthodontics regardless of their ability to pay.

Table 16- Access to Different Types of Dental Services

Items	Strongly Disagree No. (%)	Disagree No. (%)	Undecided No. (%)	Agree No. (%)	Strongly Agree No. (%)
Basic dental services					
Screening, diagnosis and treatment planning (Including oral cancers and any oral diseases)	6 (2.9%)	10 (4.9%)	28 (13.6%)	129 (62.6%)	33 (16.0%)
Oral health education	1 (0.5%)	3 (1.5%)	13 (6.3%)	125 (60.7%)	64 (31.1%)
Preventive dental services (e.g. OHI, fissure sealant)	6 (2.9%)	26 (12.6%)	48 (23.3%)	109 (52.9%)	17 (8.3%)
Emergency dental treatment (e.g. pain relieving)	1 (0.5%)	11 (5.3%)	25 (12.1%)	128 (62.1%)	41 (19.9%)
Non-surgical periodontal treatments (e.g. scaling, root planning)	8 (3.9%)	57 (27.7%)	67 (32.5%)	63 (30.6%)	11 (5.3%)
Simple extractions	10 (4.9%)	46 (22.3%)	56 (27.2%)	80 (38.8%)	14 (6.8%)
Simple restorations	12 (5.8%)	55 (26.7%)	69 (33.5%)	61 (29.6%)	9 (4.4%)
Expensive dental procedures					
Removal of 3rd molars	28 (13.6%)	64 (31.1%)	59 (28.6%)	51 (24.8%)	4 (1.9%)
Implants	67 (32.5%)	75 (36.4%)	41(19.9%)	20 (9.7%)	3(1.5%)
Prostheses (e.g. dentures, bridges)	36 (17.5%)	65 (31.6%)	66 (32.0%)	34 (10.5 %)	5 (2.4%)
Orthodontics	66 (32.0%)	75 (36.4%)	41 (19.9%)	20 (9.7%)	4 (1.9%)
Advanced periodontal treatment	35 (17.0%)	70 (34.0%)	57 (27.7%)	39 (18.9 %)	5 (2.4%)
Endodontics	39 (18.9%)	65 (31.6%)	56 (27.2%)	41 (19.9%)	5 (2.4%)

5.B.2.3 Overall Social Responsibility Scores

The dental students' overall Social Responsibility Scale scores ranged from 850 to 2100. Their mean score was 1475.36 (SD 175.14) out of a possible score range of 0 to 2300. The dental students' attitude score ranged from 675 to 1750. Their mean attitude score was 1208.86 (SD 149.03) out of a possible range of 0 to 1900. The dental students' societal score ranged from 225 to 750. Their mean societal score was 447.06 (SD 80.12) out of a possible score range of 0 to 800. The dental students' professional responsibility scores ranged from 325 to 1000. Their mean professional responsibility score was 731.8 (SD 100.04) out of a possible score range of 0 to 1100.

Table 17 illustrates the frequency of the responses of the individual items of the Social Responsibility Scale. Most dental students (88.4%) agreed that dentists should be responsible for providing dental care to the needy and 84.5% felt that the Hong Kong government should be responsible for funding programs to meet health care needs of its residents. Likewise, 86.9% of dental students also said that they would be interested in volunteering for programs which provide dental care for the needy during their dental training.

Most dental students (76.7%) disagreed that it is not the responsibility of the HK government to fund programs that provide dental care to the needy and 77.2% also disagreed that dental students should not be concerned about the problems of the dentally needy.

Table 17- Frequency of Responses of Dental Students to the Social Responsibility Scale

Items	Strongly Disagree No. (%)	Disagree No. (%)	Undecided No. (%)	Agree No. (%)	Strongly Agree No. (%)
1) Dentists should be responsible for providing dental care to the needy.	0 (0%)	4 (1.9%)	20 (9.7%)	112 (54.4%)	70 (34%)
2) Dentists should volunteer their time working in a free clinic.	3 (1.5%)	35 (17%)	94 (45.6%)	68 (33%)	6 (2.9%)
3) It is not the responsibility of the HK government to fund programs that provide dental care to the needy.	58 (28.2%)	100 (48.5%)	27 (13.1%)	17 (8.3%)	4 (1.9%)
4) I feel personally responsible for providing dental care to the needy.	0 (0%)	5 (2.4%)	33 (16%)	144 (69.9%)	24 (11.7%)
5) Individual dentists should not be willing to provide care for their patients who cannot pay	13 (6.3%)	67 (32.5%)	94 (45.6%)	30 (14.6%)	2 (1%)
6) Communities should be responsible for providing facilities for the care of the dentally needy.	2 (1%)	5 (2.4%)	47 (22.8%)	139 (67.5%)	13 (6.3%)
7) Dental students should be involved in providing dental care for the needy.	0 (0%)	11 (5.3%)	29 (14.1%)	146 (70.9%)	20 (9.7%)
8) Dental care should be provided without charge for those who cannot pay.	4 (1.9%)	37 (18%)	101 (49%)	57 (27.7%)	7 (3.4%)
9) It is the responsibility of charity organizations to provide some funding for dental care services.	0 (0%)	11 (5.3%)	29 (14.1%)	147 (71.4%)	19 (9.2%)
10) To care for needy patients, each dentist should allow for 15% of the care he/she provides to be true charity.	7 (3.4%)	38 (18.4%)	118 (57.3%)	41 (19.9%)	2 (1%)

11)	I would be interested in volunteering for programs which provide dental care for the needy during my dental training.	0 (0%)	5 (2.4%)	22 (10.7%)	146 (70.9%)	33 (16%)
12)	Not everyone should have free access to dental care.	11 (5.3%)	44 (21.4%)	55 (26.7%)	69 (33.5%)	27 (13.1%)
13)	All dental students should become involved in community health efforts.	1 (0.5%)	12 (5.8%)	47 (22.8%)	129 (62.6%)	17 (8.3%)
14)	Hong Kong government should be responsible for funding programs to meet health care needs of its residents.	0 (0%)	9 (4.4%)	23 (11.2%)	127 (61.7%)	47 (22.8%)
15)	I feel I am personally unable to make an impact on the problem of meeting the dental needs of the underprivileged.	4 (1.9%)	67 (32.5%)	96 (46.6%)	32 (15.5%)	7 (3.4%)
16)	Charity organizations should provide facilities for dental care of the needy.	0 (0%)	6 (2.9%)	38 (18.4%)	145 (70.4%)	17 (8.3%)
17)	Access to dental care is a privilege.	13 (6.3%)	47 (22.8%)	80 (38.8%)	59 (28.6%)	7 (3.4%)
18)	I personally want to be involved in providing care for the medically needy during my dental career.	1 (0.5%)	10 (4.9%)	29 (14.1%)	145 (70.4%)	21 (10.2%)
19)	Society is responsible for proving for the dental care of its members.	0 (0%)	5 (2.4%)	45 (21.8%)	136 (66%)	20 (9.2%)
20)	Dental students should not be concerned about the problems of the dentally needy.	39 (18.9%)	120 (58.3%)	30 (14.6%)	15 (7.3%)	2 (1.0%)
21)	People have a right to unlimited dental care regardless of their ability to pay.	24 (11.7%)	56 (27.2%)	90 (43.7%)	32 (15.5%)	4 (1.9%)
22)	All dental students should be involved in community activities.	1 (0.5%)	24 (11.7%)	55 (26.7%)	109 (52.9%)	17 (8.3%)
23)	Access to dental care is a right.	1 (0.5%)	16 (7.8%)	44 (21.4%)	130 (63.1%)	15 (7.3%)

5.B.3 Analytical Statistics (Dental)

5.B.3.1 Student Factors

There was no association between student factors and dental students' social responsibility scores (overall and domain scores) ($p > 0.05$). Although female students had higher scores than male students. Students who claimed to practise religion had higher scores than those who do not. Students who were overseas educated had higher scores than those who had not. Students who had previous tertiary studies had higher scores than those who had not. Students' scores were similar for those who claimed to receive Local Student Financial Scheme (financial support) and those who did not. Concerning year of study, the final year students' score was the highest among all years. Students who were involved in projects for needy had higher scores than those who were not. Table 18 illustrates this.

Table 18- Mean Scores and Standard Deviation (SD) for Student Factors

		Total Mean (SD)	Societal Mean (SD)	Professional responsibility Mean (SD)	Attitude Mean (SD)
Gender	Male	1471 (188)	478 (80)	725 (110)	1203 (157)
	Female	1480 (160)	476 (80)	740 (86)	1216 (139)
Religion	Yes	1494 (167)	485 (78)	738 (96)	1222 (143)
	No	1463 (180)	472 (81)	728 (103)	1200 (153)
Born in Hong	Yes	1470 (179)	478 (80)	728 (102)	1205 (153)
Kong	No	1509 (144)	474 (84)	759 (85)	1233 (123)
Overseas	Yes	1503 (170)	490 (79)	744 (101)	1234 (146)
Education	No	1468 (176)	474 (80)	729 (100)	1202 (150)
LSFS	Yes	1476 (158)	476 (84)	732 (84)	1208 (141)
	No	1475 (182)	478 (79)	732 (106)	1209 (153)
Previous Tertiary	Yes	1501 (170)	479 (69)	749 (99)	1228 (145)
Studies	No	1472 (176)	477 (82)	730 (100)	1206 (150)
Year of Study	Year I	1462 (190)	478 (73)	715 (115)	1193 (156)
	Year II	1497 (132)	491 (61)	734 (73)	1225 (106)
	Year III	1455 (160)	473 (81)	725 (82)	1198 (140)
	Year IV	1446 (183)	455 (87)	729 (109)	1184 (153)
	Year V	1525 (208)	494 (93)	756 (120)	1250 (186)
Experience of	Yes	1516 (189)*	486 (91)	757 (101)*	1243 (166)*
Project for needy	No	1460 (168)*	474 (75)	722 (98)*	1196 (141)*

* $P<0.05$

5.B.3.2 Attitude towards Service

There was an association between students' perception of access to preventive and basic dental services regardless of ability to pay and social responsibility score, but there was no association between students' perception of access to complex dental treatment (such as implants, orthodontics, removal of third molars and endodontics). However, social expectation score was associated with perception of access to complex dental treatment (such as orthodontics, removal of third molars and endodontics, but not implants). Table 19 illustrates this.

Table 19- Mean scores and standard deviation with respect to willingness to provide services regardless of ability to pay

		Strongly Disagree Mean (SD)	Disagree Mean (SD)	Undecided Mean (SD)	Agree Mean (SD)	Strongly Agree Mean (SD)
ODTP	**T^**	1438 (147)	1275 (284)	1390 (155)	1476 (135)	1611 (198)
	S^	408 (89)	408 (109)	458 (56)	477 (71)	527 (93)
	PR^	779 (112)	645 (189)	684 (94)	733 (80)	787 (105)
	A^	1188 (138)	1053 (238)	1142 (122)	1209 (119)	1314 (176)
OHE	**T^**	850	1292 (163)	1356 (183)	1459 (147)	1549 (182)
	S*	375	433 (52)	467 (48)	468 (75)	501 (91)
	PR^	325	633 (153)	658 (113)	728 (87)	765 (95)
	A^	700	1067 (113)	1125 (143)	1196 (127)	1266 (162)
Preventive	**T^**	1396 (199)	1377 (230)	1417 (164)	1508 (142)	1612 (165)
	S^	388 (56)	444 (105)	455 (61)	489 (70)	544 (88)
	PR^	771 (124)	686 (132)	704 (99)	745 (85)	779 (92)
	A^	1158 (170)	1130 (196)	1159 (133)	1235 (125)	1324 (147)
Emergency	**T^**	1550	1405 (181)	1409 (201)	1460 (154)	1581 (180)
	S^	48	470 (104)	447 (79)	469 (69)	520 (89)
	PR*	875	682 (95)	715 (124)	727 (93)	768 (99)
	A^	1275	1152 (163)	1162 (168)	1195 (132)	1293 (158)
Periodontal (Non-surgical)	**T^**	1460 (204)	1436 (193)	1460 (147)	1497 (152)	1698 (186)
	S^	378 (65)	455 (87)	468 (68)	504 (61)	566 (91)
	PR*	781 (122)	723 (115)	727 (85)	722 (90)	825 (97)
	A^	1159 (175)	1178 (164)	1196 (123)	1225 (132)	1391 (166)
Extractions	**T^**	1405 (193)	1448 (187)	1450 (145)	1487 (169)	1646 (184)
	S^	395 (79)	458 (86)	472 (65)	486 (71)	564 (89)
	PR	763 (115)	727 (108)	718 (86)	731 (103)	784 (93)
	A^	1158 (162)	1185 (159)	1190 (118)	1218 (148)	1348 (162)
Restorations	**T^**	1421 (179)	1450 (179)	1452 (160)	1503 (164)	1697 (175)
	S^	415 (85)	458 (87)	471 (67)	498 (69)	581 (78)
	PR	750 (114)	731 (103)	720 (94)	731 (99)	808 (104)
	A^	1165 (153)	1189 (153)	1191 (130)	1229 (146)	1389 (163)
Removal of 3rd molars	**T**	1427 (214)	1464 (143)	1479 (195)	1497 (161)	1656 (90)
	S^	428 (93)	469 (72)	491 (80)	491 (70)	569 (69)
	PR	747 (124)	731 (83)	723 (106)	730 (100)	788 (78)

	A	1175 (183)	1200 (121)	1214 (163)	1221 (142)	1356 (116)
Implants	T	1468 (213)	1486 (128)	1487 (181)	1416 (177)	1625 (87)
	S	462 (103)	482 (56)	491 (69)	471 (85)	533 (76)
	PR	741 (113)	731 (79)	738 (109)	683 (102)	783 (29)
	A	1203 (183)	1214 (107)	1229 (151)	1154 (156)	1317 (58)
Prostheses	T*	1418 (198)	1460 (137)	1492 (182)	1504 (188)	1670 (91)
	S^	426 (65)	473 (68)	494 (74)	499 (87)	535 (55)
	PR	734 (114)	721 (85)	733 (106)	730 (101)	825 (61)
	A*	1163 (164)	1194 (118)	1227 (154)	1229 (167)	1360 (74)
Orthodontics	T	1451 (212)	1495 (139)	1488 (176)	1425 (158)	1638 (92)
	S*	452 (100)	489 (59)	489 (74)	474 (73)	550 (35)
	PR	736 (113)	735 (87)	733 (104)	694 (98)	788 (66)
	A	1188 (182)	1224 (115)	1222 (147)	1168 (143)	1338 (63)
Periodontal	T^	1444 (221)	1456 (157)	1464 (162)	1519 (143)	1755 (201)
(Advanced)	S^	445 (104)	469 (72)	476 (61)	505 (70)	610 (95)
	PR	742 (122)	723 (95)	719 (98)	742 (84)	840 (104)
	A^	1187 (190)	1193 (131)	1195 (135)	1247 (124)	1450 (184)
Endodontics	T	1441 (242)	1474 (129)	1460 (170)	1509 (167)	1660 (78)
	S^	443 (109)	476 (67)	475 (62)	502 (75)	580 (48)
	PR	741 (124)	731 (82)	721 (103)	733 (98)	785 (76)
	A	1184 (206)	1207 (111)	1196 (140)	1235 (147)	1365 (82)

^ $p<0.01$; * $p<0.05$
T=Overall social responsibility score
S=Social Expectation score
PR=Professional Responsibility score
A=General Attitude score

5.B.3.3 Factors influencing access to care

Awareness of factors influencing access to care was associated with social responsibility. The awareness of influence of income to access of care was associated with professional responsibility score ($p=0.02$), and the awareness of residency to access of care was associated with professional responsibility score ($p=0.03$). Table 20 illustrates this.

Table 20- Mean scores and standard deviation with respect to views held on access

		Strongly Disagree Mean (SD)	Disagree Mean (SD)	Undecided Mean (SD)	Agree Mean (SD)	Strongly Agree Mean (SD)
Age	**T**	1525 (202)	1478 (139)	1464 (191)	1462 (169)	1591 (221)
	S	503 (107)	479 (73)	470 (59)	476 (81)	485 (121)
	PR[+]	760 (82)	726 (84)	734 (119)	722 (98)	810 (88)
	A	1263 (176)	1205 (120)	1204 (156)	1198 (145)	1296 (193)
Income	**T**	1675	1494 (172)	1348 (223)	1468 (136)	1499 (215)
	S	600	504 (82)	468 (51)	475 (65)	475 (102)
	PR[+]	750	727 (93)	635 (137)	730 (80)	749 (117)
	A	1350	1231 (145)	1103 (177)	1205 (111)	1224 (191)
Education	**T**	1450 (267)	1461 (210)	1444 (152)	1479 (163)	1501 (196)
	S	494 (184)	470 (97)	465 (67)	480 (73)	482 (86)
	PR	731 (24)	718 (127)	717 (90)	731 (92)	751 (114)
	A	1225 (203)	1189 (179)	1183 (133)	1211 (136)	1233 (171)
Gender	**T**	1516 (212)	1481 (173)	1440 (183)	1486 (127)	
	S	484 (116)	477 (76)	470 (69)	482 (69)	
	PR	755 (97)	736 (109)	715 (104)	732 (76)	
	A	1238 (188)	1213 (148)	1185 (151)	1214 (109)	
Insurance	**T**	1625 (46)	1442 (183)	1471 (190)	1473 (164)	1497 (193)
	S	556 (69)	463 (86)	484 (73)	472 (76)	485 (100)
	PR	781 (80)	715 (96)	724 (109)	733 (97)	747 (106)
	A	1338 (43)	1177 (156)	1209 (162)	1204 (137)	1232 (170)
Residency	**T**	1450 (202)	1471 (164)	1478 (161)	1466 (181)	1655 (327)
	S	466 (126)	471 (67)	477 (69)	482 (86)	515 (183)
	PR[+]	720 (86)	733 (98)	735 (102)	717 (95)	865 (113)
	A	1186 (175)	1204 (139)	1212 (133)	1199 (155)	1380 (290)

[+] $p<0.05$

5.C Medical and Dental Students' Social Responsibility

Medical students had higher overall social responsibility score and societal expectation score than dental students while dental students had higher professional responsibility score and general attitude score than medical students.

Table 21- Total Score of medical students and dental students

Item	Mean (SD)
Overall Social Responsibility	
Medical Students	1480 (203)
Dental Students	1475 (175)
Societal Expectation^	
Medical Students	514 (91)
Dental Students	477 (80)
Professional Responsibility ^	
Medical Students	691 (120)
Dental Students	732 (100)
General Attitude	
Medical Students	1205 (177)
Dental Students	1209 (149)

^p<0.001

6.0 DISCUSSION

This study targeted all medical and dental students of the University of Hong Kong because it was feasible given the numbers of students and resources available. The overall responses rates of the study were 74% for the medical students study group and 82% for the dental student study group. The participants of the study made up a large proportion of the sum of undergraduates registered in the medical and dental faculties of the university and thus can be taken to represent their views.

The response rate of the dental students study group was comparatively higher than the medical one. Since the size of the dental students study group was smaller and thus, easier to control, and because it was dental students who were the organizers of the project it was possible to ensure a higher response rate from the dental group. The profile of the medical and dental students were similar. This made comparison between the groups more valid.

Results showed that most medical and dental students are aware of the inequalities in access to medical and dental care. Overall 60 to 90% of medical and dental students agreed that access to medical and dental care was influenced by income level, education level, age and insurance status. However, most medical students agreed that access to medical care was affected by residency status where this is not the case in dental students. This is understandable, as residency status does affect the price of health care in Hong Kong i.e. non-residents need to pay much more in public hospitals than residents (http://www.ha.org). However, as dental services in Hong Kong are mainly provided by the private sector (Lo and Wong, 1999) they will seldom be affected by residency status.

Most medical students agreed that everyone should have access to both basic and expensive medical services regardless of their ability to pay. However, most dental students disagreed that everyone should have access to expensive dental services. This may be due to the fact that dental diseases are rarely life threatening or cause death. Also, as dental treatment seeking behaviour in Hong Kong is usually guided by a pain driven pattern, expensive dental treatment such as orthodontics is often viewed as an extravagance and not as a necessity and this may also influence dental students in their thinking. However significant associations were found between prosthodontic treatment, total responsibility scores and social expectation scores; advanced periodontal treatment, total responsibility scores and social expectation scores. This was probably due to awareness of impact of missing teeth on the quality of life, (for example speech, mastication and aesthetics). It is also interesting to note that dental students expect the government and the community to provide more services to the needy with respect to removal of 3rd molars, endodontic treatments and orthodontic treatments. It needs further research to investigate underlying reasons of such attitudes.

It is interesting to note that both medical and dental students think gender would not affect access to services. Traditionally, women are found having significantly higher medical care service utilization than men and have significantly lower self-reported health status (Bertakis et al. 2000). The reason why students do not treat gender as a factor of influencing access deserves further investigation. Possible explanations include women now in Hong Kong have more dental knowledge, they practise better oral hygiene habits than before and seek less emergency help than men (Oral Health Survey 2001).

Both medical and dental students do not believe that insurance can affect access to medical or dental services. The results show that medical and dental students in Hong

Kong are unaware of the trend of health care provision. In Hong Kong, healthcare insurance only insures simple treatment such as check up and some preventive treatment and fees of more complex ones still have to be paid by consumers (http://www.hkam.org.hk/temp/hmo.html), which is a great burden for the underprivileged. A study conducted in the US showed that although third-party insurance is becoming more popular, socio-demographic disparities still play important roles in determining access to services (Hayward 1989).

Medical students believe that residency status would not affect access to services while dental students have an opposite belief. The difference can be explained by the health care system in Hong Kong. Medical health service is mainly supplied by public hospitals. Once a person gets the right of abode (http://www.ha.org.hk), no matter if it is permanent or not, he or she would be subsidized by the government whereas dental services are mainly provided by the private sector, which are considered to be expensive because the new immigrants are usually categorized as being from a lower socio-economic group. This may also explain why dental students who score higher feel strongly that they are responsible for providing services to them.

The mean overall social responsibility scores (1480 to 1475) and attitude scores (1204 to 1209) for medical and dental students are similar. This indicates that medical and dental students in Hong Kong have similar levels of social responsibility. Medical and dental students believe that access to medical or dental care is a right; they think that they are responsible for providing care for the needy and they are interested in volunteering in programs to help the needy. Medical students score higher in social expectation scores than that of the dental students (514 to 447), which means medical students expect more from the government, community and society to provide medical care to the needy.

Dental students scored higher in terms of professional responsibilities than that of the medical students (732 to 691). Many medical students (43.9%) felt that they are unable to make an impact on the problem of meeting the medical needs of the underprivileged whereas only 18.9% of dental students felt they are unable to make an impact on meeting the dental needs of the underprivileged. This may be due to the fact that most medical students will work under the Hospital Authority after their graduation and their working pattern will be influenced primarily by the government policy of the healthcare system. On the other hand, most dental student, after graduation, will work in the private sector, where they can be more self-directed in treating the patients and thus, they may feel that they can individually make more of an impact towards the underprivileged.

Although most medical and dental students showed positive attitudes towards providing care for the needy, not many of them perceive that they will put their attitudes into action. Most medical (50.5%) and dental students (57.3%) are indecisive about whether to allow 15% of their care to be true charity. Many medical (43.6%) and dental (45.6%) students are indecisive about whether to volunteer their time working in a free clinic. When providing care to the needy comes to affect the students' own benefits, they tend to choose to retain their own benefits!

The analysis also shows that student socio-demographic factors can influence the degree of responsibility of students. Three main factors were found in this study: gender, religious beliefs and previous tertiary studies. For both medical and dental students, females achieved higher scores, i.e. are more socially responsible. This may be due to the fact that females are generally perceived to have more of a caring role in society, (i.e. home-makers and nursing the sick). Perhaps the increasing number of women in

medical and dental professions will provide great benefit to public health, particularly the underprivileged.

Generally, medical and dental students who claimed to have religious beliefs had higher scores and there is a significant association between the two for medical respondents. This may be because of the teaching of religions, which advocates helping others and being involved in charity work.

Medical students with previous tertiary studies were more aware of their responsibility of providing services than those who did not have previous tertiary studies. These students are more likely to be older, mature, and have a broader view of their responsibilities to society. Thus, the regulations of primary degrees before entering into medical and dental programs as in the US (pubmed, admissions to dental school) may be more beneficial in providing socially responsible healthcare practitioners in Hong Kong.

Most interestingly, both medical and dental students who had previous exposure with working with the underprivileged were more socially responsible. This would suggest exposing medical and dental students to community outreach projects in their training is important in training socially responsible medical and dental students (Eckenfels 1997). This is an area which warrants further investigation.

6.0 CONCLUSIONS

1. Both medical and dental students are generally aware of the inequalities of access to care except for the effect of insurance status on access to healthcare. However, medical and dental students differed in their perceptions that residency status can influence access to healthcare.
2. Both medical and dental students' social responsibility scores were above median possible scores. Medical students scored higher in social expectations than dental students whereas dental students scored higher in professional responsibility.
3. Medical students felt that care should be provided to all irrespective of their ability to pay whereas dental students perceived that more advanced types of care (implants, orthodontic treatment) should not be provided irrespective of their ability to pay.
4. Students' social responsibility was influenced by gender, faith and having had previous tertiary education.
5. Social responsibility was also influenced by awareness of factors which affect access to healthcare and exposure to serving the underprivileged.

7.0 RECOMMENDATIONS

- Medical and dental students need greater understanding of the factors which influence healthcare, particularly the effect of insurance.
- There needs to be a balance of understanding between social expectations and professional responsibilities of doctors and dentists as appropriate for Hong Kong.
- Dental students should be made aware that complex treatment, even though costly, is important to secure for the underprivileged in attaining oral health for all.
- In ensuring more socially responsible doctors and dentists greater consideration should be given to student profiles in student admissions.
- Exposure to serving the underprivileged in medical and dental training is likely to influence social responsibility and this should be investigated.

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